

90. (Twice Amended) A method of transmitting a message through the internet from a sender to a recipient through a server displaced from the recipient, including the steps at the server of:

receiving the message at the server from the sender,

5 transmitting from the server through the internet to an agent of the recipient the message and the identity and internet address of the server and an indication representing the identity of the sender,

receiving at the server from the agent a handshaking and delivery history of the message from the server to the agent, and

10 transmitting from the server to the sender through the internet the message, a digital signature of the message and the handshaking and delivery history of the message received by the server from the agent.

92. (Twice Amended) A method as set forth in claim 91 wherein

the server uses the information received by the server from the sender to create a digital signature and compares this digital signature with the digital signature received by the server from the sender to authenticate the message received by the server from
5 the sender.

115. (Twice Amended) In a method of transmitting a message through the internet from a sender to an agent for a recipient through a server displaced from the recipient, the steps at the server of:

receiving the message from the sender,

5 transmitting to the sender the message from the server to the agent of the recipient,

receiving at the server an indication from the agent that the message has been received at the agent from the server,

10 providing at the server a digital signature of the message received from the agent, and

transmitting to the sender the message received from the sender and the digital signature of the message for storage by the sender.

117. (Twice Amended) In a method as set forth in claim 116 the steps at the server of:

receiving from the sender a copy of the message and the digital signature of the message,

5 generating digital fingerprints of the message and the digital signature received
from the sender,
 comparing the digital fingerprints, and
 authenticating the message on the basis of the results of the comparison.

118. (Twice Amended) In a method as set forth in claim 115,
 providing at the server, at the same time as the provision of the digital signature
of the message at the server, an attachment including the identity of the sender and the
identity and internet address of the server and the identity and internet address of the
5 agent, all as received by the server from the agent,
 generating a digital signature of the attachment, and
 transmitting to the sender the attachment including the identity of the sender, the
identity and internet address of the server and the identity and internet address of the
agent and the digital signature of the attachment, all as received by the server from the
10 agent, at the same time as the transmission of the message, and the digital signature of
the message, to the sender.

120. (Twice Amended) In a method as set forth in claim 119, the steps at the server of:

receiving from the sender copies of the message and the attachment of the message and the digital signatures of the message and the attachment,

5 generating digital fingerprints of the message and the digital signature of the message and the attachment and the digital signature of the attachment, and

comparing the digital fingerprints of the message and the digital signature of the message and comparing the digital fingerprints of the attachment and the digital signature of the attachment to authenticate the message and the attachment.

121. In a method as set forth in claim 119, the steps at the server of the attachment constituting a first attachment,

receiving at the server from the agent, at the same time as the reception of the message and the attachment of the message from the agent, a second attachment
5 including the identity of the sender and the identity and internet address of the server and the identity and internet address of the agent, all as received by the server from the agent,

generating a digital signature of the second attachment, and

transmitting to the sender the second attachment including the identity of the
10 sender, the identity and internet address of the server, and the identity and internet

address of the agent and a digital signature of the second attachment, all as received by the server from the agent, at the same time as the transmission to the sender of the message and the first attachment and the digital signatures of the message and of the first attachment to the sender.

122. (Twice Amended) A method of transmitting a message through the internet from a sender to an agent for a recipient through a server displaced from the agent, including the steps of

providing the message from the sender at the server,

5 transmitting to the agent the message and the identity of the sender and the identity and the internet address of the server,

providing at the agent an attachment including the status of the reception at the agent of the transmittal from the server to the agent of the message and the identity of the sender and the identity and internet address of the server,

10 transmitting to the server from the agent the message and the attachment including the status of the reception at the agent of the message and the identity of the sender and the identity and internet address of the server and the identity and internet address of the agent, and

15 providing at the server a digital signature of the message and a digital signature of the attachment.

128. (Twice Amended) A method as set forth in claim 122 wherein
the digital signature of the message includes a digital digest of the message and
an encryption of the digital digest,

the agent includes the date and time of the transmission by the agent to the
20 server, and

the server transmits to the sender the message and the digital signature of the
message and the attachment including the identity of the sender and the identity and
internet address of the server and the identity and internet address of the agent and the
delivery status of the message and the date and time of the transmission by the agent
25 to the server, and

the delivery status of the message at the agent includes at least one of the
following: (a) DELIVERED, (b) RELAYED, (c) DELIVERED-AND-WAITING FOR
DELIVERY STATUS NOTIFICATION (DSN), (d) DELIVERED-TO-MAILBOX, and (e)
FAILED, UNDELIVERABLE.

130. (Twice Amended) A method of transmitting a message through the
internet from a sender to an agent for a recipient through a server displaced from the
agent, including the steps at the server of:

providing at the server the message and the identity of the sender and the
5 identity and internet address of the server,

transmitting to the agent the message and the identity of the sender and the identity and internet address of the server,

receiving from the agent the identity of the sender and the identity and internet address of the server and the identity and internet address of the agent and an

10 indication of the status of the reception of the message at the agent, and

transmitting to the sender the message and the information received by the server from the agent relating to the message.

136. (Twice Amended) A method as set forth in claim 134 wherein

the server transmits to the sender the identity of the sender and the identity and internet address of the server at the same time that it transmits the message to the sender and wherein

5 the sender transmits to the server what it has received from the server and wherein

the server authenticates the message on the basis of what it has received from the sender.

137. (Twice Amended) A method as set forth in claim 134 wherein

the server transmits to the sender the identity and internet address of the agent and the status of the reception of the message, all as received by the server from the agent, and the digital signature of the message and wherein

5 the sender sends to the server, at the time that the sender wishes to have the message authenticated, what it has received from the server and wherein

the server authenticates the message on the basis of what it has received from the sender after the sender wishes to have the message authenticated.

138. (Twice Amended) A method as set forth in claim 136 wherein

the server does not store the message after it transmits the message to the sender and wherein

5 the server transmits to the sender the message and the identity and internet address of the agent and the status of the reception of the message received by the agent, all as received by the server from the agent, and the digital signature of the message, and wherein

the sender transmits to the server what it has received from the server and wherein

10 the server authenticates the message on the basis of what it has received from the sender after the sender desires to authenticate the message.

139. A method of authenticating a message transmitted through the internet from a sender to a recipient through a server displaced from the recipient, including the steps at the server of:

15 transmitting to the sender the message and a digital signature of the message,
and a status of the reception of the message by an agent for the recipient,
receiving from the sender the message, the digital signature of the message and
the status of the reception of the message by the agent,
producing digital fingerprints of the message and the digital signature received
20 from the sender, and
comparing the digital fingerprints of the message and the digital signature of the
message to authenticate the message transmitted from the sender to the server.

141. (Twice Amended) A method as set forth in claim 139 wherein
the server provides a digital signature from an attachment including the identity of
the sender and the identity and the internet address of the server, and wherein
the server transmits to the sender the attachment including the identity of the
5 sender and the identity and internet address of the server, all as transmitted by the
agent to the server, and the digital signature of the attachment and wherein
the server receives from the sender the attachment including the identity and
internet address of the server and the digital signature of the attachment and wherein

the server generates digital fingerprints of the attachment, and the digital
signature of the attachment, received by the server from the sender and wherein
the server compares the digital fingerprints to authenticate the message
transmitted by the sender to the server.

142. (Twice Amended) A method of authenticating a message transmitted
through the internet from a sender to an agent for a recipient through a server displaced
from the agent, including the steps of:

generating a digital signature at the server of the message,
transmitting to the sender the message and the digital signature of the message
and an attachment including a status of a reception by the agent for the recipient of the
message and a digital signature of the attachment,

receiving at the server the information transmitted by the server to the sender,
generating digital fingerprints of the message and the attachments received by
the server and digital fingerprints of the digital signatures of the message and the
attachment,

comparing the digital fingerprints generated by the server from the message
received by the server from the sender and the digital signature of the message
received by the server from the sender to authenticate the message transmitted from
the sender to the server, and

comparing the digital fingerprints generated by the server from the attachment received by the server from the sender and the digital signature of the attachment received by the server from the sender to authenticate the attachment transmitted from the sender to the server.

145. (Twice Amended) A method of transmitting a message through the internet from a sender to an agent for a recipient through a server displaced from the agent, including the steps at the server of,

receiving the message from the sender,

5 transmitting to the agent the message and a return address identifying the sender and the server,

receiving from the agent the identity of the sender and the server, and

identifying the message transmitted from the server to the agent and the identity of the sender and the server as received by the server from the recipient.

156. (Twice Amended) A method of transmitting a message through the internet from a sender to an agent for a recipient through a server displaced from the recipient, including the steps at the agent of:

receiving from the server through the internet the message and the identity of the sender and the identity and internet address of the server, and

providing for a transmittal to the server through the internet from the agent of the identity of the sender and the identity and internet address of the sender and the identity and internet address of the agent.

158. (Twice Amended) A method as set forth in claim 156, including the step at the agent of:

indicating in the transmittal from the agent to the server that the message and the identity of the sender and the identity and internet address of the server have been sent to another agent before delivery to the agent for the recipient.

164. (Twice Amended) A method as set forth in claim 159, including the step of:

including in the transactions between the first server and the destination server via the selected protocol the status of the delivery of the message to the destination server from the first server.

166. (Twice Amended) In a method of verifying at a first server a delivery of an electronic message to a destination server for a recipient, the steps of:

transmitting the electronic message from the first server to the destination server through a transaction between the first server and the destination server via a protocol selected from the group consisting of an SMTP protocol and an ESMTP protocol,

receiving at the first server from the destination server the transactions between the first server and the destination server via the selected one of the protocols, and

transmitting from the first server to the sender the message and the transactions between the first server and the destination server in the selected one of the protocols.

168. (Twice Amended) In a method as set forth in claim 166, the step of:

retaining the message at the first server after the transmission of the message in the selected one of the protocols by the first server to the destination server.

170. (Twice Amended) In a method as set forth in claim 169, the steps of:

transmitting from the first server to the sender a copy of the message after of the transmission to the sender of the transaction between the first server and the destination server in the selected one of the protocols, and

releasing the message at the first server after the transmission of the copy of the message in the selected one of the protocols by the first server to the sender.

171. (Twice Amended) In a method as set forth in claim 170, the step of:

transmitting between the first server and the destination server the identity of the sender, the identity and address of the first server and the identity and address of the destination server and the time of the receipt of the message by the first server and the time of the transmission to the first server from the destination server of the identity of the sender, the identity and address of the first server and the identity and address of the destination server.

172. (Amended) In a method as set forth in claim 166, the step of:

receiving at the first server from the destination server a delivery status notification indicating the status of the delivery of the message from the first server to the destination server and the time of the transmission of the delivery status notification by the destination server to the first server.

173. (Twice Amended) In a method of verifying at a first server a message received by the first server from a sender and transmitted by the first server to a destination server for a recipient, the steps of:

receiving at the first server from the destination server an attachment including transactions between the first server and the destination server relating to the message from the sender, the transactions between the first server and the destination server

being provided via a protocol selected from the group consisting of an SMTP protocol and an ESMTP protocol,

transmitting from the first server to the sender the message and the attachment
10 including the transactions between the first server and the destination server via the selected one of the SMTP protocol and the ESMTP protocol,

transmitting from the sender to the first server the message and the attachment including the transactions in the selected one of the protocols, and

authenticating the message on the basis of the message and the attachment
15 including the transactions transmitted from the sender to the first server in the selected one of the protocols.

174. (Twice Amended) In a method as set forth in claim 173, the step of:
authenticating the message transmitted from the sender to the first server when
the comparison is identical.

175. (Twice Amended) In a method as set forth in claim 170, the step of:
removing the message from the first server when the first server transmits to the
sender the message and an attachment including the transactions between the first
server and the destination server via the selected one of the SMTP protocol and the
5 ESMTP protocol.

176. (Twice Amended) In a method as set forth in claim 173, the steps of:

receiving at the first server from the destination server the indication of the identity of the sender, the identity and address of the first server and the identity and address of the destination server via the protocol selected from the group consisting of the SMTP protocol and the ESMTP protocol, and

transmitting from the first server to the sender the identity of the sender, the identity and address of the first server and the identity and address of the destination server at the time of the transmission from the first server to the sender of the message and the transaction between the first server and the destination server via the protocol selected from the group consisting of the SMTP protocol and the ESMTP protocol.

177. (Twice Amended) In a method as set forth in claim 175, the steps of

providing at the first server a digital signature of the message and the attachment including the transactions between the first server and the destination server relating to the message from the sender, and

transmitting from the first server to the sender the message and the digital signature of the message and the attachment including the transactions between the first server and the destination server via the selected one of the SMTP protocol and the ESMTP protocol and the digital signature of the attachment.

179. (Twice Amended) A method of verifying delivery at a first server of an electronic message to a destination server for a recipient, including the steps of:

receiving at the first server an electronic message from a message sender for routing to the destination server,

5 establishing at the first server a communication with the destination server,

transmitting from the first server the electronic message to the destination server with a protocol transaction via a protocol selected from a group consisting of an SMTP protocol and an ESMTP protocol,

10 receiving at the first server the protocol transactions between the first server and the destination server relating to the message, and

transmitting from the first server to the sender the message and at least a particular portion of the protocol transactions between the first server and the destination server.

180. (Twice Amended) A method as set forth in claim 179 wherein

the message and the at least particular portion of the transactions provided in the selected one of the protocols to the sender are provided by the sender to the first server, and

5 the message is authenticated by the first server on the basis of the message and the at least particular portion of the transactions from the sender to the first server.

181. (Twice Amended) A method as set forth in claim 178 wherein
a digital signature is made of the message at the first server and wherein
the digital signature is transmitted from the first server to the sender with the
10 message and the at least particular portion of the protocol transactions between the first
server and the destination server and wherein
the digital signature is thereafter provided by the sender to the first server with
the message and the at least particular portion of the transactions in the selected
protocol.

182. (Twice Amended) A method as set forth in claim 180 wherein
a digital signature of the message and a digital signature of the transactions
provided in the selected protocol are produced at the first server and are transmitted to
the sender with the message and the transactions provided in the selected protocol and
5 wherein

the digital signatures and the message and the at least particular portion of the
transactions provided in the selected protocol to the sender are thereafter provided by
the sender to the first server and wherein

digital fingerprints are produced at the first server from the message and the
10 digital signature of the message provided by the sender to the first server and wherein

the message is authenticated at the first server by establishing an identity between the digital fingerprints produced at the first server.

183. (Twice Amended) A method of verifying at a first server the delivery of an electronic message from the first server to a destination server for a destination address including the steps of:

receiving at the first server an electronic message from a message sender for
5 routing to the destination server,

transmitting from the first server to the destination server the electronic message,
receiving at the first server the transactions between the first server and the destination server via the protocol selected from the group consisting of the SMTP protocol and the ESMTP protocol,

10 transmitting from the first server to the sender the message and the transactions between the first server and the destination server in the selected one of the protocols,

receiving at the first server from the sender the messages and the transactions between the first server and the destination server in the selected one of the protocols,
and

15 authenticating the message at the first server on the basis of the message received by the first server from the sender and the transactions received by the first server from the sender.

184. (Amended) A method as set forth in claim 122, including the step of:
the transactions between the first server and the destination server constituting
20 an attachment,
providing digital signatures at the first server of the message and the attachment,
and
transmitting from the first server to the sender the message and the attachment
and the digital signatures of the message and the attachment.

185. (Amended) A method as set forth in claim 184, including the step of:
transmitting to the server from the sender what has been received at the sender
from the server, this transmission occurring when the sender wishes to authenticate the
message, and
5 authenticating the message at the first server on the basis of the message and
the attachment and the digital signatures of the message and the attachment, all as
received by the server from the sender.

187. (Amended) A method as set forth in claim 163, including the steps of:
transmitting from the sender to the first server the information transmitted from
the first server to the sender, and

5 authenticating the electronic message on the basis of the information transmitted
from the sender to the first server representing the transactions between the first server
and the destination address via the selected protocol.

188. A method as set forth in claim 163, the steps of:
providing a digital signature of the message and a digital signature of an
attachment including the transactions between the first server and the destination
server via the selected protocol, and
5 transmitting the digital signature of the message and the digital signature of the
attachment from the first server to the sender at the same time that the message and
the attachment are transmitted from the first server to the sender.

189. (Amended) A method as set forth in claim 172, the steps of:
generating at the first server a digital signature of the message and a digital
signature of the attachment including the transactions transmitted from the sender to
the first server, and
5 transmitting from the first server to the sender the message and the attachment
and the digital signatures of the message and the attachment.

190. (Amended) A method as set forth in claim 173, including the steps of:

providing a digital signature of the message and a digital signature of the
attachment including the transactions between the first server and the destination
server via the selected protocol, and

transmitting the digital signatures from the first server to the sender at the same
time as the transmission from the first server to the sender of the message and the
attachment including the transactions via the selected protocol.

191. (Amended) A method as set forth in claim 189, the steps of:

transmitting from the sender to the first server the message and the digital
signature of the message and the attachment and the digital signature of the
attachment including the transactions between the first server and the destination
server in the selected one of the protocols, and

authenticating the message on the basis of the digital signatures and the
message and the attachment transmitted between the sender and the first server in the
selected one of the protocols.

193. (Amended) A method as set forth in claim 192, wherein

the server prepares a digital signature of the message and a digital signature of
an attachment including an identification of the sender and an identification and

address of the server and an identification and address of the recipient and a digital
5 signature of the attachment and wherein

the server transmits to the sender the message and the digital signature of the
message and the attachment including the identification of the sender and the
identification and address of the server and the identification and address of the
recipient and the digital signature of the attachment and wherein

10 the server receives from the sender the message and the digital signature of the
message and the attachment and the digital signature of the attachment and wherein

the server authenticates the message on the basis of the message and the
digital signature of the message and the attachment and the digital signature of the
attachment all as received by the server from the sender.

194. (Amended) A method as set forth in claim 192 wherein

the server prepares a digital signature of the message and an attachment
including a selected one of the SMPT and ESMTP protocols involved in the
transmission of the message from the server to the recipient and a digital signature of
5 the attachment and wherein

the server transmits to the sender the message and the digital signature of the
message and the attachment including the selected one of the SMPT and ESMTP
protocols and the digital signature of the attachment and wherein

the server receives from the sender the message and the digital signature of the
10 message and the attachment and the digital signature of the attachment and wherein
the server authenticates the message on the basis of the message and the
digital signature of the message received by the server from the sender.

195. (Amended) A method as set forth in claim 192 wherein
the server authenticates the message by preparing a digital fingerprint of the
message and a digital fingerprint of the digital signature and by comparing the prepared
digital fingerprints of the message and the digital signature of the message and
5 confirming that they are identical.

196. (Amended) A method as set forth in claim 194 wherein
the server authenticates the message by preparing a digital fingerprint of the
message and a digital fingerprint of the attachment including the identification of the
sender and the identification and address of the server and the identification and
5 address of the recipient and by comparing the prepared digital fingerprint of the
message and the digital signature of the message and confirming that they are identical
and by comparing the prepared digital fingerprints of the attachment and the digital
signature of the attachment and confirming that they are identical.

197. (Amended) A method as set forth in claim 194 wherein

the server authenticates the attachment by preparing a digital fingerprint of the attachment and a digital fingerprint of the digital signature of the attachment including the selected one of the SMPT and ESMTP protocols and by comparing the digital fingerprints and confirming that they are identical.

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198. (Amended) A method as set forth in claim 194 wherein

the server transmits the message and the attachment and the digital signatures of the message and the attachment to the sender without retaining a copy of the message and the attachment and the digital signatures of the message and the attachment.

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199. (Amended) A method as set forth in claim 194 wherein

the server transmits to the sender the message and the attachment and the digital signatures of the message and of the attachment and the identification of the sender and the identification and address of the server and the identification and address of the recipient without retaining any of this information.

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200. (Amended) A method as set forth in claim 197 wherein

the server transmits to the sender the message and the digital signature of the message and the attachment including the selected one of the SMPT and ESMT protocols and the digital signature of the attachment without retaining any of this information.

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201. (Amended) A method of transmitting a message through the internet from a sender to a recipient through a server displaced from the recipient, including the steps at the server of:

transmitting to the recipient the message and an attachment including an identification of the sender and an identification and address of the server and an identification and address of the recipient,

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receiving from the recipient the identification of the sender and an identification and address of the server and an identification and address of the recipient, and

transmitting to the sender the message and the attachment including the identification of the sender and the identification and address of the server and the identification and address of the recipient.

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202. (Amended) A method as set forth in claim 201 wherein
the server prepares a digital signature of the message and transmits the digital
signature of the message to the sender with the message.

203. (Amended) A method as set forth in claim 202 wherein
the server does not retain a copy of the message and the digital signature of the
message when it transmits the message and the digital signature of the message to the
sender.

204. (Amended) A method as set forth in claim 202 wherein
the server prepares a digital signature of the attachment and transmits this digital
signature of the attachment to the sender at the same time that it transmits the
attachment to the sender and wherein

5 the sender transmits to the server the message and the digital signature of the
message and the attachment and the digital signature of the attachment when the
sender desires to obtain an authentication of the message and the attachment.

205. (Amended) A method as set forth in claim 204 wherein
the server provides an authentication of the message and the attachment and
the digital signatures of the message and the attachment, all as received by the server
from the sender.

206. (Amended) A method of transmitting a message through the internet from
a sender to a recipient through a server displaced from the recipient, including the steps
at the server of:

transmitting to the recipient the message and an identification of the sender and
5 a protocol selected from a group consisting of SMPT and ESMTP protocols.

receiving from the recipient the selected one of the protocols, and
transmitting to the sender the message and the selected one of the protocols.

208. (Amended) A method as set forth in claim 206, including the step of:
not retaining at the server a copy of the message and the digital signature of the
message when the server transmits the message and the digital signature of the
message to the sender.

209. (Amended) A method as set forth in claim 206, including the step of:

preparing at the server a digital signature of the message and a digital signature
of the selected one of the protocols, and

transmitting the digital signatures from the server to the sender with the message
5 and the selected one of the protocols.

210. (Amended) A method as set forth in claim 207, including the steps of:

preparing at the server a digital signature of the [message and] of the selected
one of the protocols, and

transmitting the digital signature of the message from the server to the sender
5 with the message and the digital signature of the selected one of the protocols with the
protocol, and

not retaining at the server a copy of the message and the digital signature of the
message and the selected one of the protocols and the digital signature of the selected
one of the protocols when the server transmits the message and the digital signature of
10 the message and the selected one of the protocols and the digital signature of the
selected one of the protocols to the sender.

PLEASE ADD THE FOLLOWING NEW CLAIMS

211. A method as set forth in claim 208, including the steps of:

transmitting the message and the digital signature of the message from the sender
to the server, and

authenticating the message on the basis of the message and the digital signature

5 transmitted from the sender to the server.

212. A method as set forth in claim 210, including the steps of:

transmitting from the sender to the server the message, the digital signature of the
message, the attachment and the digital signature of the attachment, and

authenticating the message on the basis of the message and the digital signature

5 of the message transmitted from the sender to the server and authenticating the
attachment on the basis of the attachment and the digital signature of the attachment
transmitted from the sender to the server.

213. In a method of authenticating a message transmitted through the internet by a server from a sender to an agent of a recipient, the steps at the server of:

10 transmitting to the recipient the message and an attachment including the identity of the sender and the identity and address of the server and the identity and address of the recipient, and

receiving the indication by the agent of the receipt of the message by the agent, and including the indication of the receipt of the message by the agent in the attachment.

214. In a method as set forth in claim 213, the step at the server of:

creating a digital signature of the message and a digital signature of the attachment.

215. In a method as set forth in claim 214, the step at the server of:

transmitting to the sender the message and the digital signature of the message and the attachment and the digital signature of the attachment.

216. In a method as set forth in claim 215, the step at the server of:

receiving from the sender the message and the attachment and the digital signatures of the message and the attachment.

217. In a method as set forth in claim 216, the step at the server of:

authenticating the message on the basis of the message and the attachment and the digital signature of the message and the attachment, all as received by the server from the sender.

218. In a method of authenticating a message transmitted through the internet by a server from a sender to an agent of recipient, the steps at the server of:

receiving from the agent a protocol selected from a group consisting of SMPT and ESMTP protocols after the transmission of the message from the server to the agent of the message by the selected one of the protocols, and

providing at the server a digital signature of the message, and

transmitting the message and the digital signature of the message from the server to the sender.

219. In a method as set forth in claim 218, the step of:

disposing of the message and the digital signature of the message at the server after the transmission of the message and the digital signature of the message from the server to the sender.

220. In a method as set forth in claim 219, the steps of:

receiving at the server the message and the digital signature of the message after
the disposition of the message and the digital signature of the message at the server, and
authenticating the message at the server on the basis of the message and the digital
5 signature of the message received by the server from the sender.

221. In a method as set forth in claim 218, the steps of:

providing an attachment including the selected one of the protocols,
providing a digital signature of the attachment, and
transmitting from the server to the sender the attachment and the digital signature
5 of the attachment at the same time as the transmission of the message and the digital
signature of the message from the server to the sender.

222. In a method as set forth in claim 221, the step of:

disposing of the message and the attachment and the digital signature of the
message and the attachment at the server after the transmission of the message and the
digital signature of the message and the attachment and the digital signature of the
5 attachment from the server to the sender.

223. In a method as set forth in claim 222, the steps of:

receiving at the server from the sender the message, the attachment and the digital
signatures of the message and the attachment after the disposition of the message and
the digital signature of the message and the attachment and the digital signature of the
5 attachment at the server, and

authenticating the message and the attachment at the server on the basis of the
message and the digital signature of the message and the attachment and the digital
signature of the attachment, all as received at the server from the sender.

224. In a method as set forth in claim 220 wherein

the authentication is provided by generating at the server a digital fingerprint of the
message, and a digital fingerprint of the digital signature of the message, received by the
server from the sender and comparing the digital fingerprints generated at the server.

225. In a method as set forth in claim 223 wherein

the authentication is provided as follows:

generating at the server a digital fingerprint of the message from the message
received by the server from the sender, and a digital fingerprint of the digital signature of
5 the message received at the server, and comparing the digital fingerprints generated at
the server, and

generating at the server a digital fingerprint of the attachment, and a digital fingerprint of the digital signature of the attachment, received at the server from the sender, and comparing the digital fingerprints generated at the server.